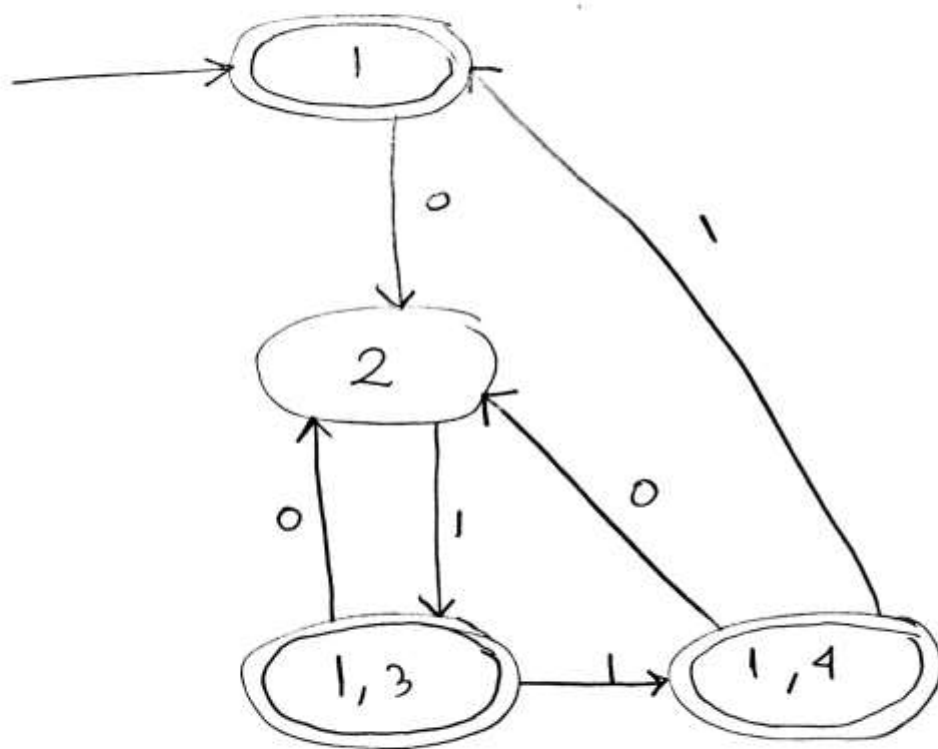
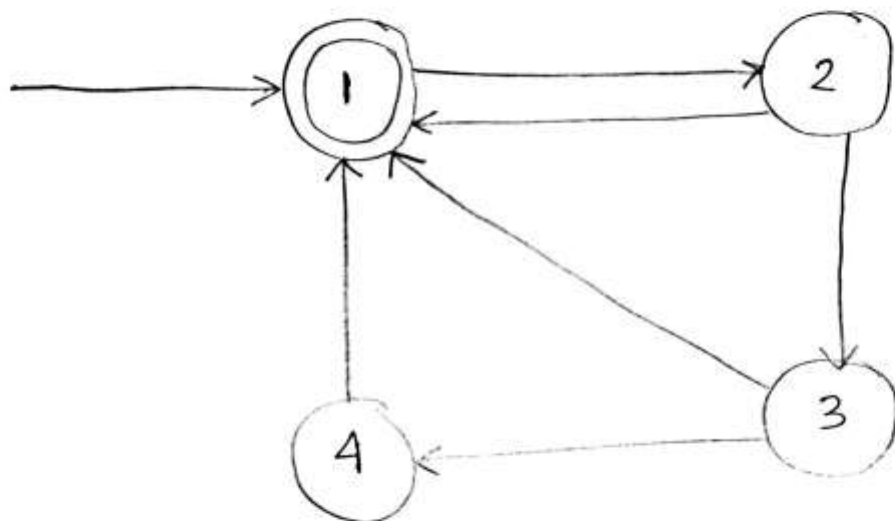


Sec 4

Sheet 3

Compiler

4] 01, 011, 0111



1] Sec 4

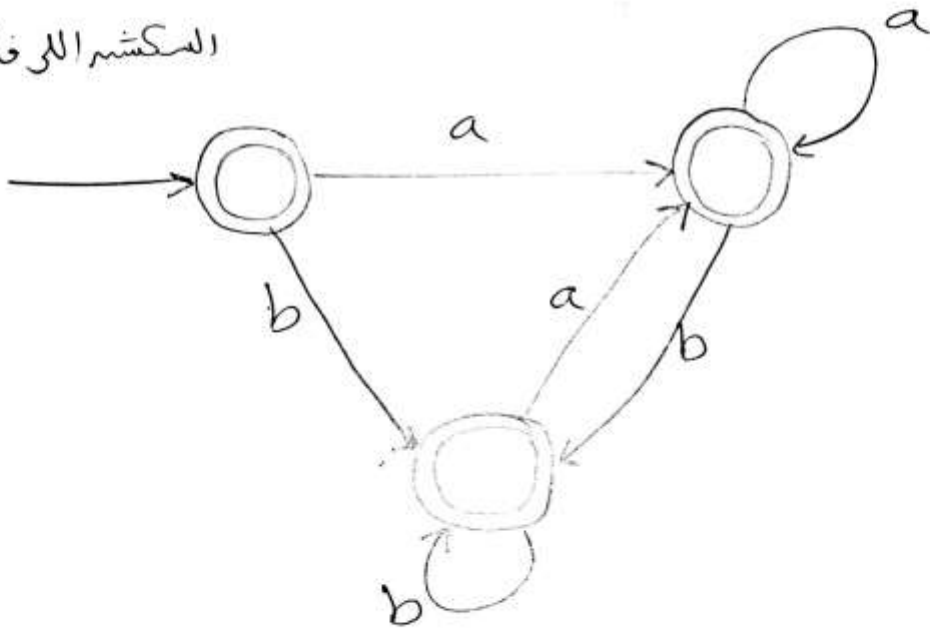
5

a) $(a/b)^*$

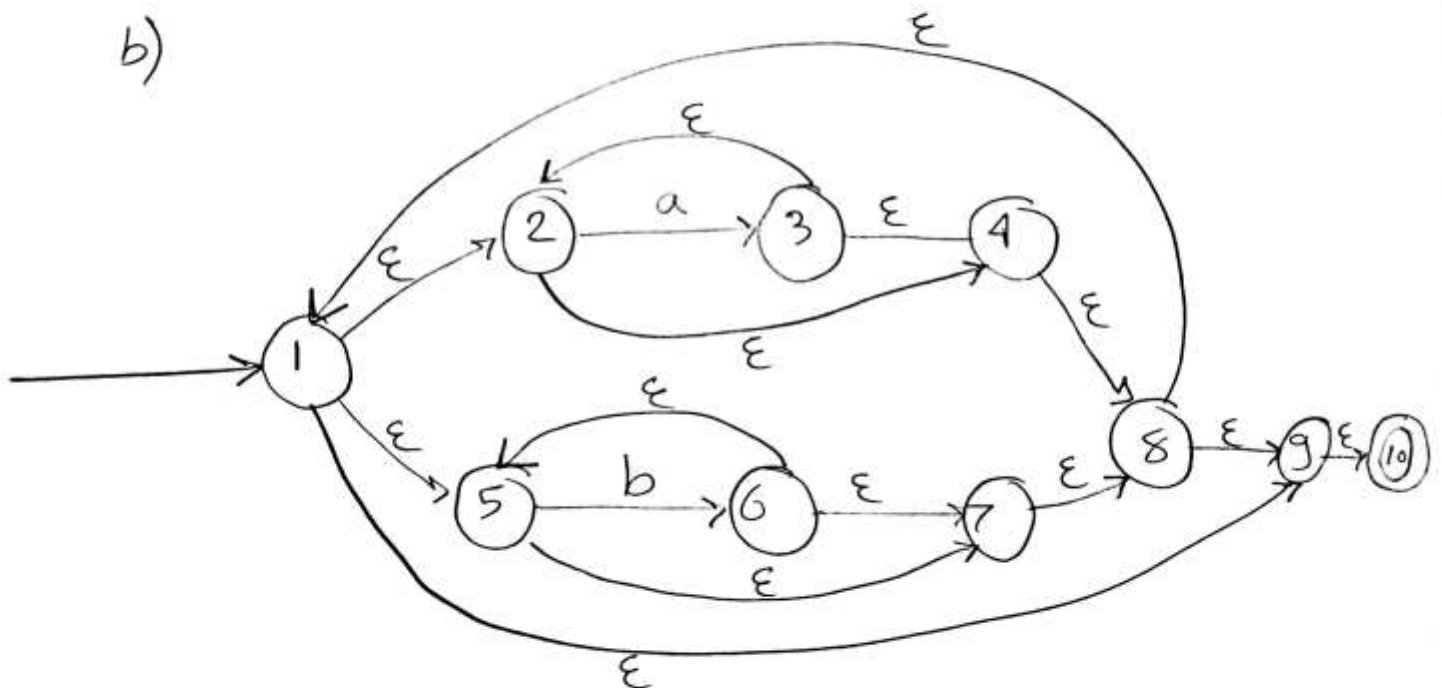
b) $(a^*/b^*)^*$

c) $((\epsilon/a)b^*)^*$

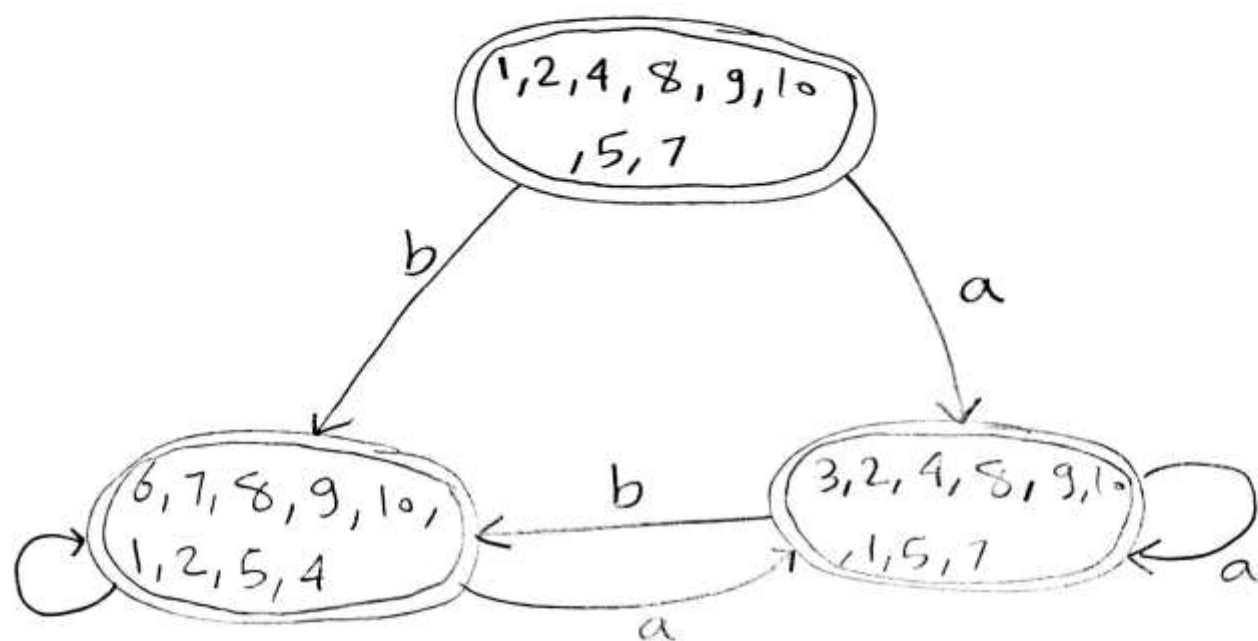
a) المسكنات اللغات



b)

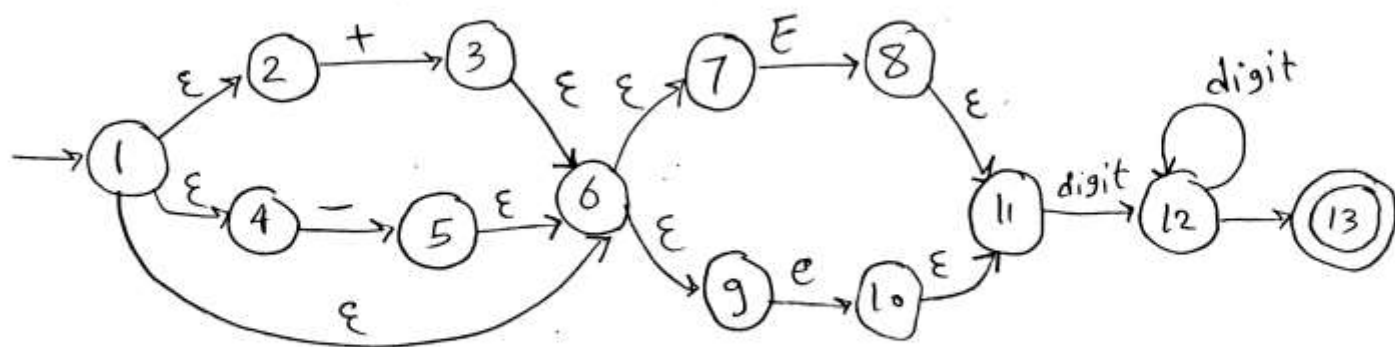


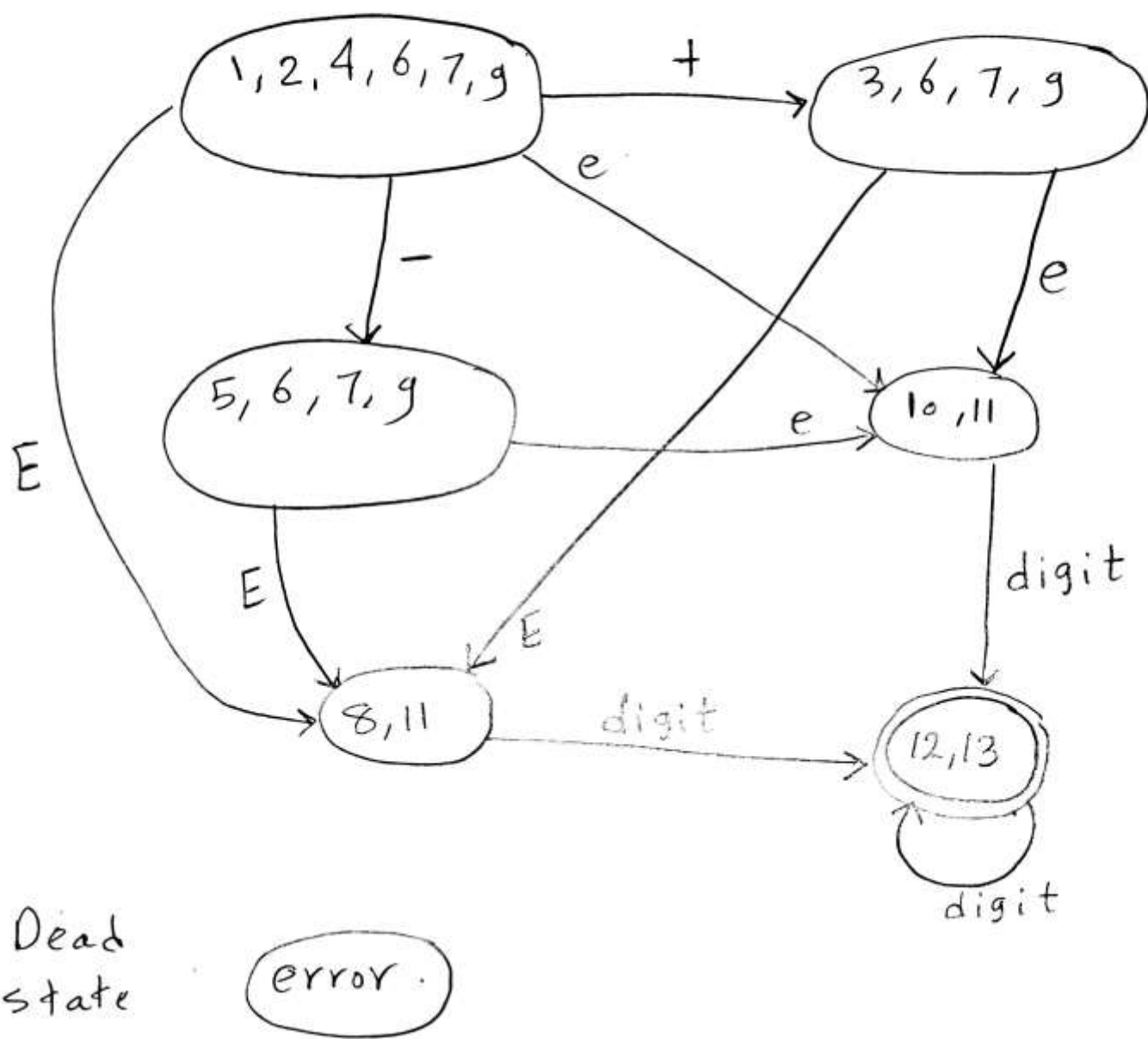
2 Sec 9



← اینتا صعد مع ال ۳ نقطه و هتجيب الشكل ده
 پس هتستبدل الارقام دي برمز هتيللعوا الثلاثه في
 الاخر نري بعوف.

6 $EXponent = (+/-/\epsilon) \cdot (E/e) \cdot (digit)^+$

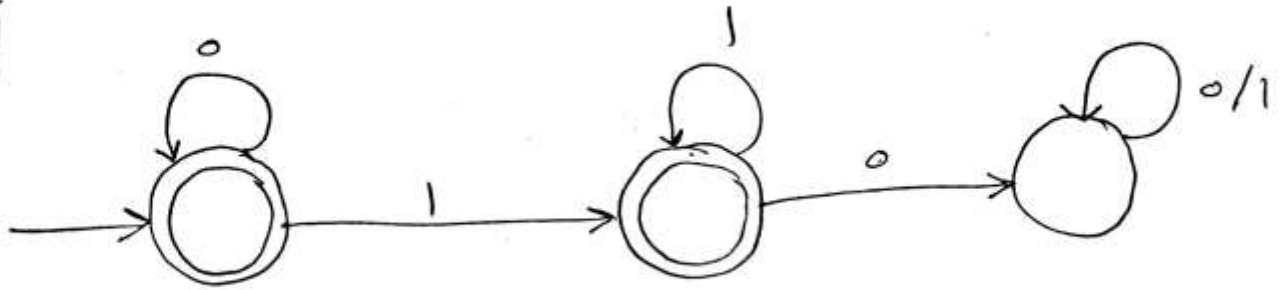




(Accept state) لا يقبل لا (Dead state)
 لا يقبل (missing transition) لا يقبل

4 sec 4

7



a) string starts with zero or more
no. of zero followed by ~~zero~~ one
or more.

→ It accepts ϵ .

b) $0^* 1^*$

Sheet 4

$E \rightarrow E + E \mid E * E \mid \text{digit}$

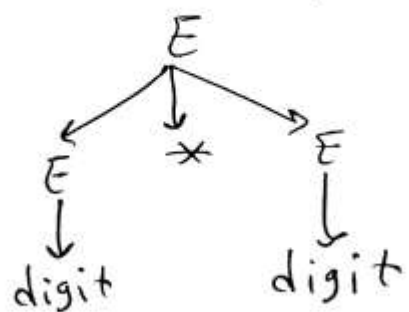
$E \rightarrow E + E$

$E \rightarrow E * E$

$E \rightarrow \text{digit}$
 \downarrow
 NT

لو عايز $\text{digit} * \text{digit}$

\Downarrow



\boxed{ET}

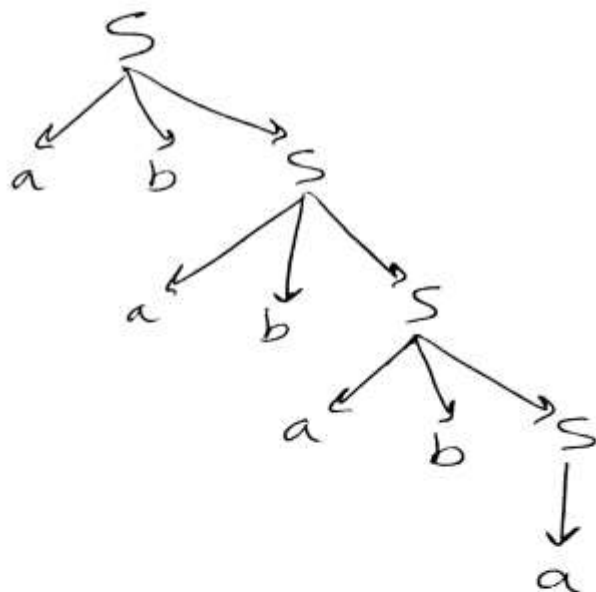
~~sec 9 (Yale) sec 9 (Production) 51~~

From lecture slide \leftarrow 463(261

5

a. $S \rightarrow abS \mid a$

S
 \downarrow
 a

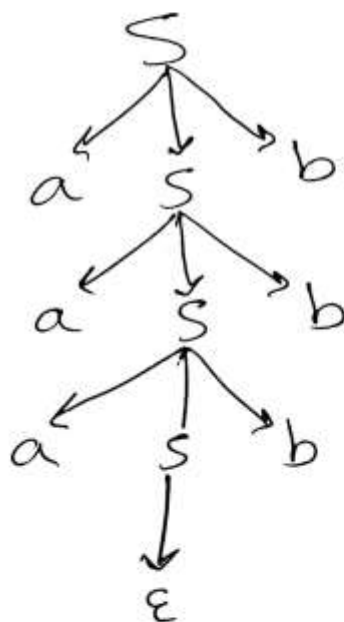


$\Rightarrow (ab)^* a$

b. $S \rightarrow asb \mid \epsilon$

no. of a's = no. of b's

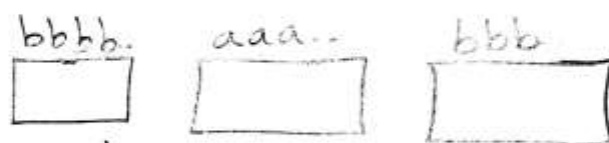
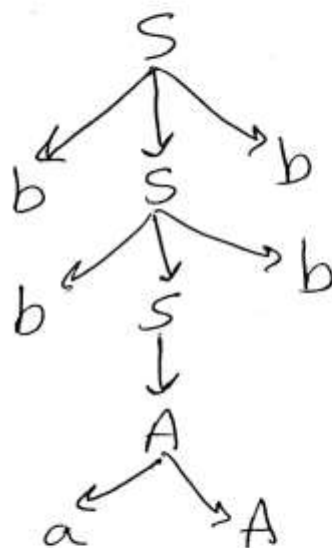
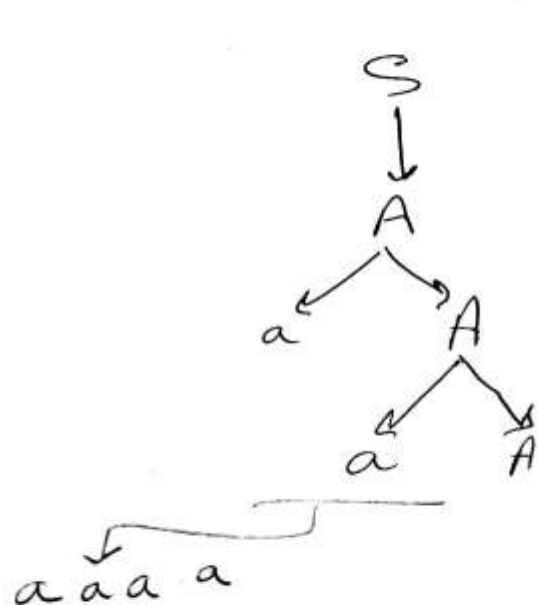
$a^* b^*$ \uparrow



6 sec 9

$$e) S \rightarrow bsb \mid A$$

$$A \rightarrow aA \mid \epsilon$$



no. of b's are equal

$$\Rightarrow b^* a^* b^*$$

equal

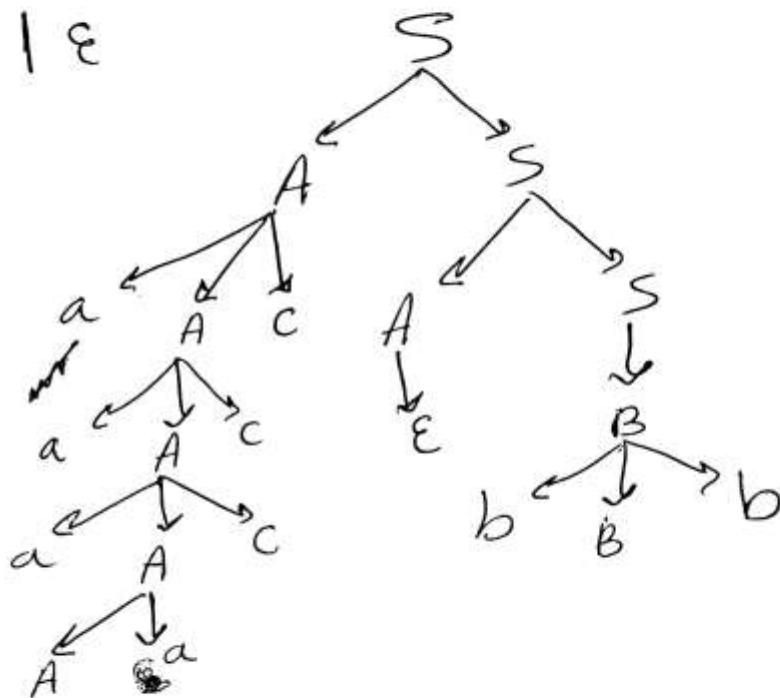
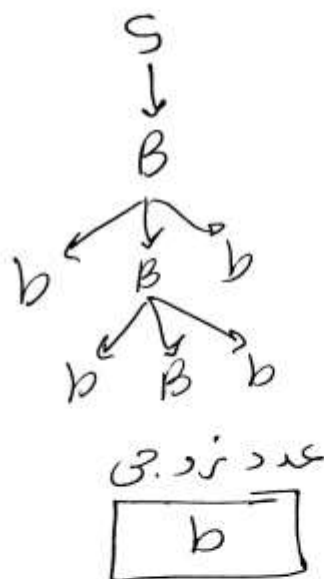
~~$$S \rightarrow As \mid B$$~~
~~$$A \rightarrow aaA$$~~

7) sec 4

$$d) S \rightarrow As | B$$

$$A \rightarrow aAc | Aa | \epsilon$$

$$B \rightarrow bBb | \epsilon$$



→ strings of a and c with same

All fewer c's than A's and no prefix

has ~~more~~ more c's than a's. Followed by
number of b's.

8 sec 4

e) $S \rightarrow S$ and $S | S$ or $S | (S)$
 $| true | False$

→ Boolean EXP. \Rightarrow true or False

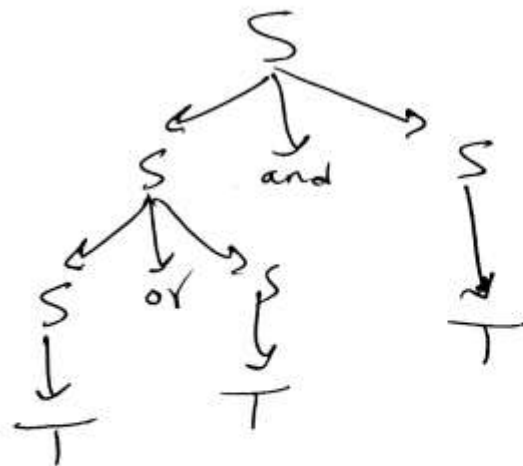
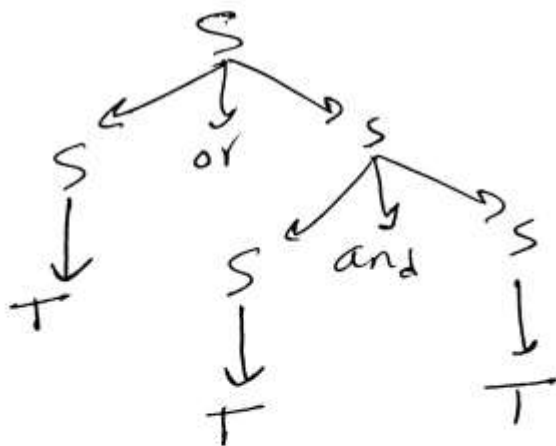
could contain and, or, ~~()~~.

[6] (5) في الذاكرة (left recursive) \Rightarrow

no. (e)

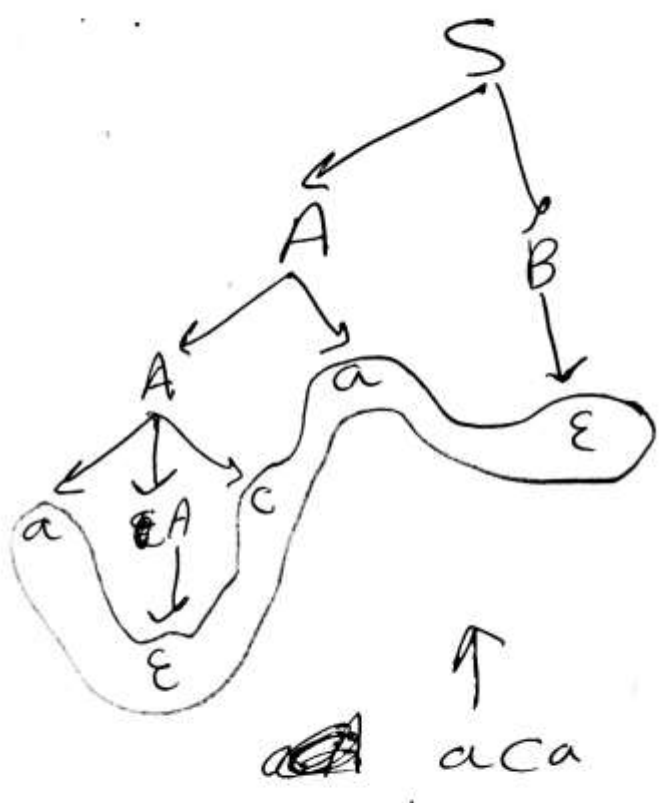
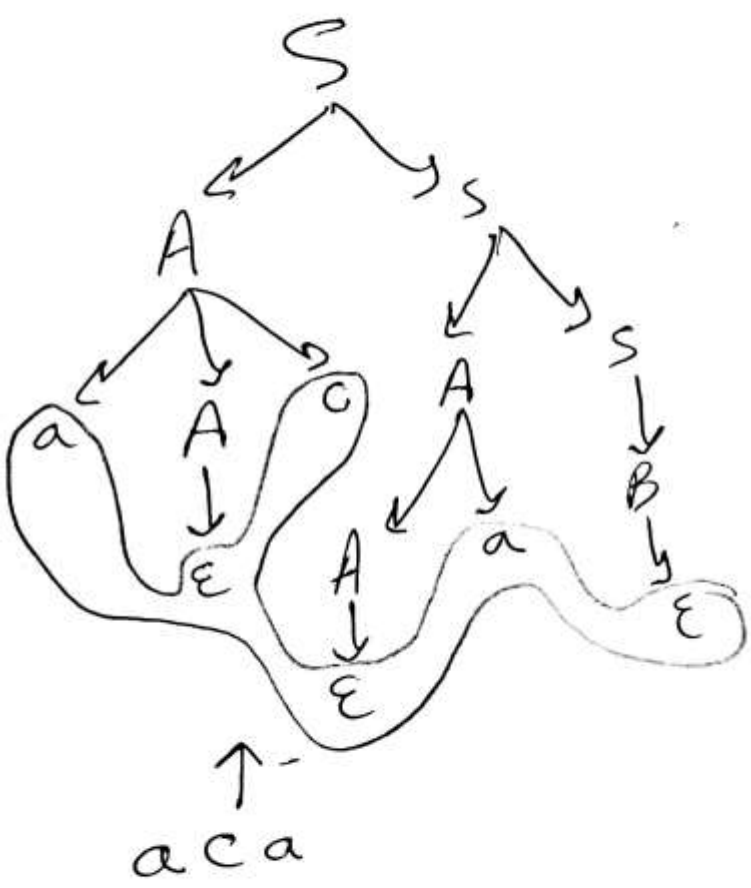
[7] which ambiguous?

~~والسبب~~
 (e) والسبب



[9] Sec 4

Ambiguous \leftarrow (d)



[10] sec 4